

## Some notes on migrant Lepidoptera species in Norway 1997

(Insecta, Lepidoptera)

by

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### Introduction

The following notes are based on observations and collecting done by the author at the following four localities: Trondheim and Brekken, in central Norway; Larvik and Andebu, in southern Norway from May through October 1997.

### The weather

In 1997 the summer was very warm in all parts of Scandinavia. Winds from the south and southeast were predominant during the period. The general impression is one of sunny periods interrupted by locally heavy showers. In south and central Norway much of the precipitation was accompanied by thunder. Since most records are done in Trondheim, I have chosen the temperatures reported by the Weather Service at Trondheim Airport. A cold spring was followed by four months with temperature above the average last 30 years:

April:	Average	2.0 (high 13.2 – low –4.7)	Average last 30 years	3.9
May:	Average	7.5 (high 17.7 – low –1.9)	Average last 30 years	9.6
June:	Average	13.7 (high 26.8 – low 0.1)	Average last 30 years	12.6
July:	Average	17.5 (high 29.0 – low 5.6)	Average last 30 years	13.9
August:	Average	17.1 (high 30.6 – low 4.9)	Average last 30 years	13.4
September:	Average	11.0 (high 24.4 – low 0.5)	Average last 30 years	8.4
October:	Average	4.3 (high 13.4 – low –6.9)	Average last 30 years	6.2

### The species

I observed 9 species, as follows: *Pieris brassicae* L., *P. rapae* L., and *P. napi* L. (Pieridae); *Nymphalis antiopa* L., *Polygonia c-album* L., *Inachis io* L., *Vanessa atalanta* L. and *Mesoacidalia aglaja* L. (Nymphalidae); *Autographa gamma* L. (Noctuidae).

With one exception I follow EITSCHBERGER et al. (1991) when regarding these species as migratory. The exception is *M. aglaja* L., not mentioned by EITSCHBERGER et al. (1991). The author considers *M. aglaja* to be migratory in central Norway because it occupies/reoccupies areas in certain years. In other years the species is almost absent from central Norway, found only in small numbers in restricted habitats. This is also true of *Polygonia c-album* L. The permanent northwestern distribution limit of both species is in or close to central Norway. Probably even

the occurrence of *Pieris brassicae* L. and *Colias palaeno* L. (not seen in 1997) depends upon the same pattern of occupation and reoccupation in central Norway.

#### *Pieris brassicae* (LINNAEUS, 1758)

*P. brassicae* occurred in only one generation, flying for a month from mid June to mid July in Trondheim. Its arrival was delayed because of the cold conditions in April and May. The species was less numerous than normal, and I did not observe any migratory behaviour. When *P. brassicae* is favoured by an early and warm spring, it produces a partial second generation in Trondheim, flying from mid August and well into September.

#### *Pieris rapae* (LINNAEUS, 1758)

*P. rapae* was surprisingly common in Trondheim between 10. July and 5. August. Even though there are a few records of *P. rapae* from Trondheim, the author has never seen the species in or close to the city before. In 1997 more than 50 individuals were recorded in Trondheim. They began to appear just after the 1st generation of *Pieris napi* L. was gone. They were often seen flying in parks inside the city of Trondheim. 5–10 individuals were seen on a single day. The occurrence of *P. rapae* is interesting and probably resulted from a migration from the south in 1996, (KROGEN, 1998). In 1996 the author observed one individual, probably a migrant, in a mountain valley south-southeast of Trondheim. One can not exclude the possibility that such a migration had also taken place in 1997. This species is a common resident in the lowlands of southern Norway, 500 km south of Trondheim. The butterflies generally looked fresh, and I did not observe any migratory behaviour in 1997.

#### *Pieris napi* (LINNAEUS, 1758)

As was *P. brassicae*, *P. napi* was seen in a single delayed generation in Trondheim in 1997, rather low in number. On warm days in late June a few individuals were seen feeding on flowers as early as 6 am. The first individuals appeared in early June and the flight time was over about one month later. In years when *P. napi* appears during May it sometimes produces either a complete or a partial second generation in Trondheim. This second generation is active in August and September. In southern Norway it regularly occurs in two generations. No signs of migratory behaviour were observed.

#### *Nymphalis antiopa* (LINNAEUS, 1758)

Like *P. rapae*, this species is a permanent breeder in Norway only in the southern parts of the country. *N. antiopa* is more localized than *P. rapae*, but is common in restricted areas during most years (KROGEN, 1998). Only one major migration was ever recorded in Norway. This took place in the late summer of 1989 and covered mainly northern Norway (STRANN et al., 1995).

The author observed two individuals migrating from east to west about 10 meters above ground on 4. August 1989, 100–150 km northeast of Trondheim. On a visit to the same area on 12. May 1990 more than 25 individuals, mostly perching males, were seen during the day between 9 am to 5 pm, proving that *N. antiopa* had succeeded in hibernating there.

In 1997 three individuals were recorded in central Norway by the author. I observed two worn specimens, 2. July (1) and 4. July (1), in Brekken, 150 km south-southeast of Trondheim at 850 meters above sea level. The third individual was seen in a park in the center of Trondheim 25. August. All three individuals were probably migrants.

On a visit in August to an area southwest of Oslo where *N. antiopa* is a permanent breeder, the following observations were made: In Larvik, 3 were seen on 5. August and 1 on 6. August. In Andebu, 6 were seen on 6. August and 21 on 9. August.

The author observed 34 individuals of the species in 1997.

### *Polygonia c-album* (LINNAEUS, 1758)

The northernmost habitats for *P. c-album* in Norway are found 110 km north-northeast of Trondheim. It has yet not been found on the western side of the Trondheimsfjord where the climate is wetter with cooler summers and milder winters. It is a lowland species found in mixed forests on the eastern side of the fjord, mainly in the warm bottoms of valleys. Single specimens are occasionally seen in gardens and parks in the center of Trondheim. Since 1971 I have recorded the species every year in Trondheim, but the frequency differs considerably from one year to another. According to AAGAARD (pers. com.) *P. c-album* was absent from Trondheim in the 1960's and at that time the closest known locality was 35 km east of the city. In 1971 and 1972 the species suddenly became very common in Trondheim, and in these years *P. c-album* totally outnumbered the common *Aglais urticae* L. *P. c-album* has never appeared to have been this common since then.

In 1997 the following observations were made: Overwintering individuals, Trondheim, 13. May to 21. June (19). New brood, Trondheim, 1. August to 7. September (28). In southern Norway the species was observed in Larvik on 5. August (3) and in Andebu from 6.–9. August (36). One specimen collected in Andebu was a major aberrant with hindwings completely coloured black.

### *Inachis io* (LINNAEUS, 1758)

One male was collected 14.IX. in Trondheim when resting on the ground. The specimen was worn and most probably a migrant from the south or southeast. There is, however, a slight chance that it had been transported to Trondheim by road or railroad. The author has not recorded the species in central Norway before, but it has been reported from this region a few times. None of these reports have been confirmed, and I believe that at least some of them really are observations of *Lasiomma maera* L. or *Lasiommata petropolitana* (FABRICIUS, 1787), and by mistakes identified to be *I. io* because of their significant eyespots. *I. io* is a common butterfly in southern Norway.

### *Vanessa atalanta* (LINNAEUS, 1758)

In Trondheim five *V. atalanta* males, representing a small number of migrants, were seen hilltopping. The first male was seen on 21. June. The last two individuals seen hilltopping were both observed on 15. June. Fresh specimens of a new generation were observed in early August in southern Norway in Andebu on 6. August (1) and in Larvik on 7. August (1) and 8. August (1). In Trondheim the first fresh individuals were observed on 18. August (3). The last individual was seen on 11. October resting on a forest trail on a cool and cloudy day. In Trondheim 59 individuals of the new generation were recorded. Many of these were seen when taking nectar from thistles or feeding on fermented plums. The highest number seen on one single day was 22 (25. August). The author did not observe any migrants heading south. Large scale migration from north to south is recorded in southern Norway in 1976 (LID, 1977). The total number of *V. atalanta* observed in 1997 was 67. The author concluded that a small number of migrants succeeded in breeding and producing a new generation rather moderate in number. The species was favoured by the warm summer of 1997.

Although *V. atalanta* was rather common in 1997, not a single individual of *Vanessa cardui* L. was ever observed.

### *Mesoacidalia aglaja* (LINNAEUS, 1758)

*M. aglaja* was observed for first time in Brekken at 850–900 meters altitude from 24. July to 28. July 1997. During 5 sunny days more than 15 individuals were recorded. Eight of these were collected, and all appeared to have been females. The author suggests that fertilized females had migrated from an area where population build-up had taken place. Two individuals were observed flying 3–4 meters above the ground from east to west. Most individuals were seen in meadows while they were feeding on flowers.

In Trondheim *M. aglaja* was locally very numerous in July and early August. On 1. August 17 individuals were seen, all at the same time, when feeding on a group of thistles. The last female was seen on 1 September. 1997 was apparently a very good year for the species in central Norway. In the 1980's and early 1990's *M. aglaja* was absent from most habitats around Trondheim, and for several seasons the author observed few or no individuals. During the last couple of years, however, it has become more common in the region. 1997 is probably the best year for this species since the mid 1970's. In southern Norway it is generally common every year, and 1997 was no exception. In both Larvik and Andebu *M. aglaja* were numerous when I observed in southern Norway from 5. to 9. August.

### *Autographa gamma* (LINNAEUS, 1758)

Only two observations were made in 1997, both in Larvik, in southern Norway: 5. August (1), 6. August (1). In a normal year it is common in southern Norway in August, and at least some individuals can usually be found in central Norway. In great contrast to 1996, when *A. gamma* was extremely common in central Norway (KROGEN, 1998), this migrant was absent or scarce in central and southern Norway in 1997.

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